

FY-2001 PROPOSED SCOPE OF WORK for:

Project #: CAP 9

Endangered Fish Recovery and Water Management Plans for Tributary Basins

Lead Agency: U.S. Fish and Wildlife Service

Submitted by: Gerry Roehm
U.S. Fish and Wildlife Service
P.O. Box 25486, DFC
Denver CO 80225
Phone: (303) 969-7322 x272
Fax: (303) 969-7327
E-mail: gerry_roehm@fws.gov

Date: July 17, 2000

<u>Category:</u>	<u>Expected Funding Source:</u>
<input type="checkbox"/> Ongoing project	<input checked="" type="checkbox"/> Annual funds
<input checked="" type="checkbox"/> Ongoing-revised project	<input type="checkbox"/> Capital funds
<input type="checkbox"/> Requested new project	<input type="checkbox"/> Other
<input type="checkbox"/> Unsolicited proposal	

I. Title of Proposal:

Endangered Fish Recovery and Water Management Plans for Tributary Basins

II. Relationship to RIPRAP:

Green River Action Plan: Yampa and Little Snake Rivers
1.A.2. Develop Yampa River management plan

Colorado River Action Plan: Gunnison River

III. Study Background/Rationale and Hypotheses:

Separate programmatic biological opinions will be developed to encompass both federal and non-federal water development, past and future, in the Yampa and Gunnison river basins. Management plans developed for these basins will serve as the basis for the U.S. Fish and Wildlife Service (Service) to render its biological opinions. The Management Plans will describe those actions to be covered by each plan, including recovery actions to be implemented to benefit the endangered fish. Recovery actions will include provision for and protection of instream flows, habitat restoration and maintenance, nonnative fish control, endangered fish stocking and monitoring endangered fish populations.

The Yampa River, a principal tributary to the Green River in northwest Colorado, is widely regarded as the most important river in the Upper Colorado River Basin to the maintenance and recovery of four endangered fishes: Colorado pikeminnow, humpback chub, bonytail, and razorback sucker. The Yampa River is one of the least developed subbasins in the Upper Colorado River Basin, exhibiting a relatively unaltered spring hydrograph which benefits the fishes not only in the Yampa, but also in the Green River downstream from the Yampa.

Flows in the Yampa River are characterized by seasonal extremes, ranging from average spring peaks of about 10,000 cubic feet per second (cfs) to average minimum base flows in late summer of 137 cfs at the Maybell gage. In 1934, an extremely dry year, the lowest flows, 2 cfs, were recorded at Maybell. In 2000, the Service developed its final flow recommendations for the Yampa River of 93 cfs summer-fall (July-October) and 124 cfs winter (November-March). These are not absolute flow minima, but should be viewed in an historical context. The Service determined that 7,000 AF of augmentation would satisfy the flow needs of the fishes in all but the driest years. The Yampa River Management Plan will identify and evaluate water supply alternatives to meet this need.

Nonnative fishes in the Yampa River Basin also constitute an important challenge to the recovery of the endangered fishes in the Yampa River. Tyus and Saunders (1996) identified three priority issues that need to be addressed for the Yampa River:

1. Movement of nonnatives fishes (chiefly large predators such as northern pike and smallmouth bass) into the Yampa River from water bodies in the floodplain, impoundments such as Elkhead Reservoir, and upstream reaches of the river.
2. Nonnative predators in the mainstem Yampa River prey on natives, especially young razorback sucker, Colorado pikeminnow and humpback chub.
3. Movement of nonnatives from the Green River into the Yampa River.

Tyus and Saunders recommended several strategies and actions to deal with these issues including development of a fisheries and conservation management plan emphasizing public relations and acceptable alternative fishing opportunities, and controlling the escapement of nonnative fishes from Elkhead Reservoir. Effective implementation of these actions will depend on the support of the Colorado Division of Wildlife and consent by local citizens who will be affected by nonnative control projects.

The Gunnison River, a principal tributary to the Colorado River in central Colorado, is important to the recovery of four endangered fishes in the Upper Colorado River Basin: Colorado pikeminnow, humpback chub, bonytail, and razorback sucker. The hydrology of the Gunnison River has been modified by a series of three dams and reservoirs, Blue Mesa, Morrow Point, and Crystal, collectively known as the Aspinall Unit, operated by the U.S. Bureau of Reclamation (Bureau) for water supply, hydroelectric power generation and flood control. In addition, there are numerous non-federal water projects that deplete water from the Gunnison River and its tributaries. Nevertheless, the Gunnison River not only provides habitat for Colorado pikeminnow and razorback sucker, but its flows contribute to creation and maintenance of habitats for all four species on the Colorado River from the Gunnison River confluence at Grand Junction downstream to Lake Powell.

IV. Study Goals, Objectives, End Product:

- A. Goal: The ultimate goal of these Management Plans is to provide water for existing and future human needs, to provide and protect instream flows and habitat needed to maintain and recover endangered fishes, and to protect other native fish and wildlife resources to prevent them from being listed as threatened or endangered.
- B. Objectives:
 1. Develop a framework to address issues raised by the Service, Bureau and others.

2. Review/update consumptive use projections describing the amount of water that is needed to meet current and future human needs.
3. Determine when and how much water should be released from storage to meet the flow needs of the endangered fishes under current and future conditions.
4. Evaluate, acquire, restore and manage flooded bottomland habitats.
5. Determine if existing diversion structures and natural barriers impede to fish migration and develop appropriate remedies.
6. Develop and implement actions to reduce/minimize impacts on native fishes due to the presence of competitive and predatory nonnative fishes in the Gunnison River.
7. Supplement existing populations of Colorado pikeminnow and razorback sucker by propagating and stocking these species.
8. Monitor endangered fish populations and habitats.
9. Develop Management Plans that incorporate the above items in cooperation with local stakeholders, the Colorado Water Conservation Board (CWCB), Colorado River Water Conservation District (River District), and Bureau, as appropriate.
10. Develop and implement a formal agreement among appropriate parties to implement the Management Plans.

C. End Products:

1. Final Yampa Management Plan
2. Formal Agreement between the Service, Bureau, and the State of Colorado to implement the Yampa Management Plan.
3. Draft Gunnison Management Plan
4. Final Gunnison Management Plan
5. Formal Agreement between the Service, Bureau, and the State of Colorado to implement the Gunnison Management Plan.

V. Study area:

The geographic scope of depletions to be considered in the Yampa Management Plan is the mainstem Yampa River and its tributaries from Yamcolo Reservoir downstream to the confluence of the Yampa and the Little Snake River at Deerlodge Park. However, the consideration of impacts on Yampa River base flows due to these depletions will extend from Craig, Colorado, downstream to the confluence with the Green River at Echo Park. Potential cumulative impacts of these actions on spring peak flows will be assessed from Craig, Colorado, downstream through the middle Green River in Utah, and consider the cumulative impacts of existing and foreseeable future water development projects on the Little Snake and Green rivers, as well as the Yampa.

The geographic scope of depletions to be considered in the Gunnison Management Plan is the Gunnison River Basin from Continental Divide downstream to the Gunnison River confluence with the Colorado River at Grand Junction, Colorado. However, the Plan also will address the impacts of these depletions on occupied (or potentially occupied) habitats from the Aspinall Unit downstream to and including the “18-mile reach” of the Colorado River in the Grand Valley.

VI. Study Methods/Approach

Overall direction for development of the Yampa Management Plan will be provided by a workgroup, chaired by the River District and CWCB, with representatives from water users, Colorado Division of Wildlife, federal agencies, environmental groups, and other Yampa Basin stakeholders. The existing Yampa Management Team will be rolled into this larger workgroup. The workgroup will be responsible for addressing issues of existing and future water depletions and flows for listed fishes.

Overall direction for development of the Gunnison Management Plan will be provided by a workgroup, comprised of representatives from the State of Colorado, the Bureau, Service, Western Area Power Administration and other federal agencies, as appropriate, environmental groups, water users, and other Gunnison Basin stakeholders. The Bureau will be the lead federal agency for the purposes of NEPA and ESA compliance.

VII. Task Description and Schedule

Scoping:

1. Determine when and how much water is needed to augment instream flows in the Gunnison River to benefit the endangered fishes and other native species (May 2001).
2. Conduct a workshop to present the recommendations of a tributary report (Tyus and Saunders 2000) and discuss the role of the Gunnison and other tributaries in the recovery of the endangered fishes (September 2001).

Identify/Evaluate Alternatives:

3. Identify and evaluate water management alternatives to offset existing and future depletions and meet the flow needs of the listed fishes (July - November 2001).
 - a. Provide specific guidance and other information to Reclamation and CWCB hydrologists to describe and evaluate water management options for the Gunnison River.
 - b. Develop a preferred water management alternative for the Gunnison River (November 2001).
4. Carry out nonnative fish control programs (ongoing).
5. Identify and evaluate high-priority flooded bottomland habitats (ongoing).
6. Evaluate fish passage/entrainment issues at Hartland Diversion and implement appropriate remedial measures (ongoing).

Preparation of Documents and Implementation Agreement(s):

7. Prepare final Yampa Management Plan that presents a description of alternatives and recommendations for implementation (June 2001).
8. Prepare draft Gunnison Management Plan that presents a description of alternatives and recommendations for implementation (November 2001).
9. Determine NEPA and ESA requirements of proposed action(s), as necessary, and prepare appropriate documents (April - September 2001).
10. Prepare final Gunnison Management Plan (March 2002).
11. Develop Cooperative Agreements to implement the Management Plans (September 2001 - March 2002).

Support Activities:

12. Public Involvement Activities: Implement public outreach activities to promote acceptance of the Management Plans.
13. Hydrology Support: Model existing and alternative future flow scenarios for Tasks 3 above using existing Reclamation models and CRDSS.
14. Technical Project Support and Coordination. Provide technical support and coordination related to the development of the Management Plans, to include:
 - a. Preparing RIP scopes of work
 - b. Coordinating activities of Yampa/Gunnison workgroups
 - c. Coordinating public involvement activities
 - d. Responding to requests for information
 - e. Performing staff work for the Yampa/Gunnison workgroups
 - f. Reviewing/synthesizing documents

VIII. FY-2001 Work

Task 1. Determine when and how much water is needed to augment instream flows

Deliverables: Flow recommendations

FY 2001 Budget: See Task 14 below

Task 2. Workshop to present the recommendations of a tributary report

Deliverables: Workshop summary

FY 2001 Budget: See Task 14 below

Task 3. Identify and evaluate water management alternatives

Deliverables: Preferred water management alternative

FY 2001 Budget: See Task 14 below

- Task 4. Carry out nonnative fish control programs
Deliverables: Evaluate and make recommendations
FY 2001 Budget: Separate Scope(s) of Work (see Project #98 and Elkhead Screen)
- Task 5. Identify and evaluate high-priority flooded bottomland habitats
Deliverables: Appropriate NEPA document(s); recommendations
FY 2001 Budget: Separate Scope(s) of Work (see Project #CAP-6)
- Task 6. Fish passage/entrainment
Deliverables: Engineering designs; appropriate NEPA document(s)
FY 2001 Budget: Separate Scope(s) of Work (see Project #CAP-26)
- Task 7. Final Yampa Management Plan
Deliverables: Final Management Plan
FY 2001 Budget: See Task 14 below
- Task 8. Draft Gunnison Management Plan
Deliverables: Draft Management Plan
FY 2001 Budget: See Task 14 below
- Task 9. NEPA and ESA requirements
Deliverables: Notice(s) of Intent; Biological Assessment(s)
FY 2001 Budget: See Task 14 below
- Task 10. Final Gunnison Management Plan.
Deliverables: Final Management Plan
FY 2001 Budget: See Task 14 below
- Task 11. Cooperative Agreements
Deliverables: Cooperative Agreements
FY 2001 Budget: See Task 14 below
- Task 12. Public Involvement Activities
Deliverables: Public Involvement Plan
FY 2001 Budget: Separate Scope(s) of Work (see Project #12A)

Task 13. Hydrology Support

Deliverables: Hydrologic analyses

FY 2001 Budget: Separate Scope(s) of Work (see Project #71a)

Task 14. Project Coordination/Management

Deliverables: Scopes of work; work plans; annual report

FY 2001 Budget: \$87,000

IX. Budget Summary

Tasks 1-13:	\$	0	(funded under Task 14 or separate scopes of work)
Task 14:		<u>87,000</u>	
FY 2001:		\$ 87,000	

FY 2002+: TBD

X. Reviewers:

FWS (Bob Muth, Angela Kantola, George Smith)
CWCB (Dan McAuliffe)
CRWCD (Ray Tenney, Eric Kuhn)
BR (Brent Uilenberg, Bob Norman)

XI. References

Tyus, H.M. and J.F. Saunders, III. 1996. Nonnative fishes in natural ecosystems and a strategic plan for control of nonnatives in the Upper Colorado River Basin. Draft Report. Center for Limnology, University of Colorado at Boulder. 83 pages.

U.S. Fish and Wildlife Service. 2000. Stream flow needs of rare and endangered fishes: Yampa River flow recommendations. Final Report. U.S. Fish and Wildlife Service, Denver, Colorado.